

REMARKS

Claim 1 has been amended to recite the yeast slurry as being "undiluted" as described at page 5, line 6 and page 10, lines 16-18 of the specification as originally filed.

The Office Action rejected claims 1, 2, 4-6 and 10-11 under 35 USC §103(a) as being unpatentable over GB Patent No. 2,197,341 to Quain in view of Masschelein *et al.* (Malting and Brewing Process) and in further view of U.S. Patent No. 4,978,616 to Dean or U.S. Patent No. 4,764,471 to Ripka.

Looking first at amended claim 1, it can be seen that the claimed method now requires that the yeast slurry be an undiluted yeast slurry from a previous fermentation having 40 g/l yeast to 80 g/l yeast on a dry weight basis.

Turning now to Quain, there is disclosed a method of aerating yeast prior to fermentation in which the yeast is first diluted with water and then exposed to oxygen for a period of time until the yeast reaches its maximum rate of oxygen consumption. To reduce foaming, the yeast slurry was diluted 10-fold (page 2, lines 18-19) because oxygen cannot be supplied rapidly enough when undiluted dense yeast slurries are used. Since oxygen is introduced as bubbles into the diluted slurry, foaming may occur which further necessitates slurry dilution. Thus, Quain teaches away from using an undiluted slurry as the Quain process requires diluted slurries to avoid foaming. Also, because of the slurry dilution, Quain requires large tanks which make the Quain process equipment cumbersome and uneconomical. In contrast, the invention of claim 1 uses undiluted yeast slurries.

Referring now to U.S. Patent No. 4,978,616 to Dean, the process of this patent is directed to the oxygenation of the culture liquid without the biocatalyst beads (see column 8, 19-35). Thus, this patent does not teach or suggest oxygenating an undiluted yeast slurry.

Turning to U.S. Patent No. 4,764,471 to Ripka, this patent describes a process in which a culture medium such as molasses is oxygenated in channel 36 and the oxygenated molasses then passes into reaction zone 60 which includes yeast (see column 8, line 53 to column 4, line 8). Thus, this patent does not teach or suggest oxygenating an undiluted yeast slurry.

With respect to the Masschelein reference, this article is silent as to yeast dilution. However, given that oxygen is introduced as bubbles into the yeast, foaming may occur which would necessitate slurry dilution as in Quain above. Thus, the process of Masschelein necessarily dictates diluted yeast slurries to avoid foaming.

Accordingly, it is believed that all of the elements and limitations of amended independent claim 1 (and claims 2, 4-6 and 10-11 that depend thereon) are not shown or suggested in Quain, Masschelein, Dean or Ripka, taken alone or in combination.

Conclusion

The Applicants respectfully submit that amended independent claim 1 (and claims 2, 4-6 and 10-11 that depend thereon) are in condition for allowance. Favorable reconsideration is respectfully requested.

Other than the fees for the RCE and the three month extension, no additional fees are believed to be needed for this amendment. If additional fees are needed, please charge them to Deposit Account 17-0055.

Respectfully submitted,

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